

Chapter XV

The Role of EBM and Nursing Informatics in Rural Australia

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ABSTRACT

The purpose of this chapter is to broadly discuss the need for enhanced evidence-based medicine (EBM) by nurses in the context of rural Australia and the role that nursing informatics and an informed strategy could facilitate in making such need a feasible reality. First, the introduction highlights current time gaps between health discoveries and eventual practice and the potential for information technology to positively affect this gap. Then, the need for nurses to take an active role in evidence-based medicine in rural settings is argued. The link between information literacy and evidence-based medicine is consequently presented and gaps in knowledge regarding nursing informatics training are highlighted. Concluding with the argument that to achieve evidence-based research and eventual use, there needs to be a purposeful health informatics learning strategy that recognises the role of computer and information literacy.

INTRODUCTION

Patient health outcomes in health settings are dependant on the ability of these institutions to ensure appropriate, up-to-date clinical practice. The creation of this up-to-date practice is commonly known as evidence base medicine (EBM) and it integrates a number of components and

even today is not without controversy. For example, according to Sackett (1996), it requires a bottom-up approach that integrates the best external evidence with individual clinical expertise and patient-choice, it cannot result in slavish, cook-book approaches to individual patient care. External clinical evidence can inform, but can never replace, individual clinical expertise, and it

is this expertise that decides whether the external evidence applies to the individual patient at all and, if so, how it should be integrated into a clinical decision (Sackett D.L. et al., 1996). Conversely, Stuart (2001) suggests that the most desirable basis to substantiate clinical practice is the evidence of well-established research findings and that developing evidence-based medicine involves defining the clinical question, finding the evidence, analysing the evidence, using the evidence, and evaluating the outcome (Stuart, 2001). Regardless of the point of view taken to EBM (clinician or research centred prevalence) there is an accepted need to find, analyse and evaluate the existing up-to-date research findings.

However, there are significant time gaps in the application of research findings into clinical practice. Using the results of a number of published studies, Balas and Boren estimated that it takes an average of 17 years to turn 14% of original research findings into changes in care that benefit patients (Balas & Boren, 2000). The current gap from research to practice has highlighted the relative ineffectiveness of traditional methods such as continuing medical education and journal publications for disseminating new medical information (Mold & Peterson, 2005).

The beginning of the 21st century has seen a surge in interest and enthusiasm for health care information technology based on its ability to demonstrate improvements in the quality, safety, and cost-efficiency of health care (Hersh, 2006; Nagykaldi & Mold, 2007). From a technological point of view, there is consensus that Information technology can support the implementation of clinical research findings in practice settings; e.g. the availability of on-line web based information is a clear example. At the most optimistic extreme, Goldstein et al (2004) suggest that technology can address the quality gap in health care by providing automated decision support to clinicians that integrates guideline knowledge with electronic patient data to present real-time and patient-spe-

cific recommendations. However, technologic developments are not sufficient to bring the value of computer and information technologies to health care systems (B. Kaplan, Brennan, Dowling, Friedman, & Peel, 2001); Goldstein also concedes that technical success in implementing decision support systems may not translate directly into system use by clinicians. Reporting that extensive clinician use of the system was associated with explicit attention to the organizational context at the time of development, deployment, and maintenance of the system (Goldstein MK et al., 2004). The difficulties in adoption, barriers and attitudes of clinicians towards computerisation and use of information systems for health research has been well documented (Janes et al., 2005; Littlejohns, Wyatt, & Garvican, 2003; Lorenzi, 2004; Walsh SH, 2004; Westbrook, Gosling, & Coiera, 2004; Winkelman, 2003; Wolf, 2001).

Nonetheless, there is a commonsense link between health informatics skills and evidence based research (EBR) to support EMB; however, the argument presented so far assumes that there are enough clinicians (with the clinical expertise) in rural settings with enough informatics skills to engage in purposeful evidence-based medicine (EBM).

The purpose of this chapter is to discuss broadly the need for enhanced evidence-based medicine by nurses in the context of rural Australia and more specifically the role that nursing informatics could play in making such need a potential reality. The perspective in this chapter is supported by applied action research outcomes in nursing informatics and education strategies currently in progress in rural Australia and marrying it to the existing literature. Ultimately, it aims at informing decision makers or those in a position to influence decisions and informatics educators of some of the informatics issues faced by nursing staff that might hinder or enable the use of evidence-based medicine in the Australian rural context.

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